

Attorney's Docket No.: 06816/044003

REMARKS

Applicants hereby file a request for continued examination (RCE) and respectfully ask the patent office to reconsider and allow the application.

As an initial matter, Applicants acknowledge the examiner's detailed analysis and comments in the Final Office Action. The Examiner is correct in that the terms "catalyst material" and "catalyst" were used interchangeably in some parts of the original specification and thus may cause certain confusion. As correctly stated in the Final Office Action, Claims 1-6 and 26 are directed to inventions for increasing the surface area of the catalyst, which is part of the catalyst material. Upon further review of the original specification, when reading each of the term "catalyst material" or "catalyst" in context, the meaning of term "catalyst material" or "catalyst" appears to be clear in the original specification. For example, in paragraph [0069], the word "catalyst" in line 22 on page 18 should be "catalyst material" when reading the paragraph as a whole.

In view of various issues raised by the examiner regarding the specification and the claims, Applicants have now amended the specification and the claims as indicated above to clarify the language and to place the application in a better form. No new matter is added.

Upon entry of the amendments, Claims 1-26 remain pending, in which Claims 1-6 and 26 are under examination on their merits and Claims 7-25 are withdrawn from consideration.

Claims 1-6 and 26 stand rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement (Item 3, pages 2-5). Applicants respectfully request the rejections be withdrawn.

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Claims 1-6 and 26 recite methods for increasing the surface area of a catalyst in a catalyst material which is a mixture of the catalyst and other materials. The specific methods for putting the insoluble substance into the catalyst material are known in the art. In addition, methods for leaching the metal zinc, aluminum, or tin out of a material and methods for removing non-ionic surfactant by heating at an elevated temperature are also known in the art. Hence, a person skilled in the art can readily select a suitable known non-ionic surfactant for practicing the claimed invention from known non-ionic surfactants based on their known properties without undue experimentation. It is well established that a patent need not teach, and preferably omits, what is well known in the art.

MPEP 2164.01.

For example, Triton-X 100 is an example of such an additive as a non-ionic surfactant. Triton-X-100 is commercially available and is widely used in many formulations. This material can be oxidized, volatized and decomposed at about 250°C, and would leave behind voids. Other examples of removable organic surfactants are derivatives of norborneol (a derivative of camphor) that can be volatilized at temperatures as low as 100°C. These are non-ionic and surfactants. These and other known non-ionic surfactants and associated processes of mixing them with other materials are well known. In this application, the Applicants apply the known surfactants and known material preparation methods to catalyst materials for increasing the catalyst surface area.

Similarly, the mixing of zinc, aluminum and tin in other materials and leaching them out are known in the art. Based on what is known in the art, a person of ordinary skill in the art can apply the known mixing methods to form a catalyst material with zinc, aluminum or tin and apply a known leaching method to

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leach the zinc, aluminum or tin out. For example, it is well known that aluminum, zinc and tin are dissolved out by alkali solutions, while the noble metal such as platinum will remain intact. With the above known knowledge in the art, the teaching of the present specification fully enables a person of ordinary skill in the art to apply a process of dissolution or leaching of the base metals (zinc, aluminum and tin) to the claimed methods to achieve voids in the metal resulting in enhanced surface area. Notably, the person of ordinary skill in the art can appreciate that no high temperature treatment is required to achieve the removal of zinc, aluminum or tin by the leaching process, and this can be efficiently achieved at room temperature close to 25°C. This type of enhancement in surface area is achieved in the metallic phase of the catalyst material.

Hence, without the specific teaching on the known surfactants and processes, the present specification is enabling under 112 because what is well known is not needed in the patent application (MPEP 2164.01). The teaching in the present specification is sufficient to enable a person of ordinary skill in the art to make and use the claimed methods.

The Final Office also rejects the claims based on lack of support in the specification. Applicants, however, respectfully suggest that the original specification, when read in context, fully support Claims 1-6 and 26. The support for the claims is now further evidenced by the amendment to the specification which clarifies the language.

Therefore, the enabling requirement under 112 is fully satisfied and the rejections should be withdrawn.

Claims 1-6 and 26 stand rejected under 35 USC 112, first paragraph, as failing to comply with the description requirement (Item 4, page 6). Applicants respectfully request the rejections be withdrawn.

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First, the Final Office Action rejects Claims 1-6 for not being supported by the specification. This contention has been fully addressed by the reading the original specification in context and by the amendment to the specification. In addition, the original claims are part of the original specification and thus provide further support.

Second, Claim 26 has been now amended to be consistent with the description in paragraph [0069]. Hence, the rejection to Claim 26 has been overcome.

Claims 1-6 and 26 further stand rejected under 35 USC 112, second paragraph, as being indefinite (Items 5 and 6, page 7). Applicants respectfully request the rejections be withdrawn.

Claim 1 as amended recites at least two steps to "increase a surface area of the catalyst material compared to the catalyst material prior to introducing and removing the substance." First, a substance is introduced in the catalyst material and is insoluble. Second, the insoluble substance is subsequently removed. These two steps in combination create voids in spaces where the insoluble substance occupies prior to the removal. These voids effectuate the increase in the surface area of the catalyst in the catalyst material.

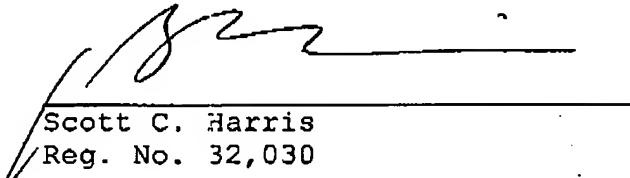
Claim 1 as currently amended has clarify its language to eliminate the ambiguity indicated by the Final Office Action. Therefore, Claim 1 as amended is now definite because it particularly points out and distinctly claims the invention. Based on the above argument, Claims 2-6 are also definite.

In view of the above, Applicants respectfully suggest that all rejections have been fully addressed and resolved and that Claims 1-6 and 26 be allowed.

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Respectfully submitted,



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